

## REMARKS

This Amendment responds to the Office Action mailed on October 16, 2006. In the Office Action, the PTO:

- objected to Figures 1 and 3;
- rejected claims 13-20 and 69-85 under 35 U.S.C. § 112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention; and
- rejected claims 13-20 and 69-85 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Gosselin *et al.* (U.S. Patent No. 6,444,652) in combination with Weis *et al.* (WO 96/13512); and

Claims 1-12 and 21-68 have been canceled, without prejudice, to conform to the Restriction Requirement. Claims 13 and 17 are amended to correct typographical errors. The amendment of claims 13 and 17 are not intended to narrow their scope. No new matter is added by this Amendment. After entry of this Amendment in response to the instant Office Action, the pending claims are: claims 13-20 and 69-85.

### **Response to Drawing Objections**

Figure 1 was objected to because the aminopyridine structure shown in Figure 1 had three methyl groups instead of two. Figure 3 was also objected to because the equilibrium arrows in Figure 3 were not clear. Figures 1 and 3 are amended accordingly and replacement sheets for the drawings are enclosed herewith. The amendments of Figures 1 and 3 do not constitute new matter. Applicant respectfully request the entry of the amended Figures 1 and 3 into records.

In view of the above comments, Applicant respectfully requests withdrawal of the objections to Figures 1 and 3.

### **Response to Rejections Under 35 U.S.C. § 112**

Claims 13-20 and 69-85 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The PTO asserted that because an acid halide has the general structure R-C(O)Cl, it is allegedly not clear what the recitation “reacting the optionally protected L-1-O-alkyl-2-deoxyribose with an acyl halide that

generates an anhydrous acid halide *in situ*” in steps (c) and (h) of claims 13 and 17 respectively is intended to be. *See* Office Action, dated October 16, 2006, on page 3, in the second last paragraph.

Applicant respectfully submits that the PTO’s assertion was mistaken for the following reasons. First, the general structure R-C(O)Cl represents an acyl chloride not an acid halide. Second, anhydrous acid halide is clearly defined in the specification, for example, on page 13, lines 9-11; on page 13, lines 21-23; on page 25, lines 17-19; on page 26, lines 2-4; and on page 43, lines 14, claim 7. The specification, for example, at page 25, lines 17-18 states that anhydrous acid halide can include HCl, a hydrogen halide. Third, the specification, for example, on page 13, lines 9-11 and on page 25, lines 17-19 states that anhydrous acid halide is produced *in situ* by the reaction of an acyl halide with an alcohol. A skilled artisan will recognize that an acyl halide reacts with an alcohol to produce a hydrogen halide (*i.e.*, anhydrous acid halide) and an ester. Because L-1-O-alkyl-2-deoxyribose is an alcohol which can react with an acyl halide to generate an anhydrous acid halide, *i.e.*, a hydrogen halide, therefore the recitation “reacting the optionally protected L-1-O-alkyl-2-deoxyribose with an acyl halide that generates an anhydrous acid halide *in situ*” is clear and definite.

In view of the above comments, Applicant respectfully requests withdrawal of the rejection of claims 13-20 and 69-85 under 35 U.S.C. 112 as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

#### **Response to Rejections Under 35 U.S.C. § 103(a)**

Claims 13-20 and 69-85 were rejected under 35 U.S.C. 103(a) as being unpatentable over Gosselin *et al.* (U.S. Patent No. 6,444,652) in combination with Weis *et al.* (WO 96/13512). The PTO asserted that (1) Gosselin *et al.* at cols. 25-26 discloses the reaction of silylated uracil with a protected ribose sugar to give the nucleoside 10; and (2) Weis *et al.* in Scheme IV on page 14 teaches the reaction of a silylated base with a ribose sugar that has a chlorine at the 1-position to give the corresponding nucleoside.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. *In re Rouffet*, 149 F.3d 1350, 1357, 47

USPQ2d 1453,1457-58 (Fed. Cir. 1998). Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Applicants respectfully submit that the PTO has failed to establish a *prima facie* case of obviousness because Gosselin *et al.* and Weis *et al.*, individually or in combination, do not teach or suggest all the claim elements of claims 13 and 17, particularly steps (c) and (h) of claims 13 and 17 respectively.

Steps (c) and (h) of claims 13 and 17 recite, *inter alia*, “reacting the optionally protected L-1-O-alkyl-2-deoxyribose with an acyl halide that generates an anhydrous acid halide *in situ*”. Gosselin *et al.* and Weis *et al.*, individually or in combination, do not teach or suggest the generation of anhydrous acid halide such as HCl *in situ* by reacting an acyl halide with a L-1-O-alkyl-2-deoxyribose for the following reasons.

First, the PTO has admitted that Gosselin *et al.* does not disclose the conversion of the 1-O-alkyl-ribose to a halide before reacting it with a silylated base. See Office Action dated October 16, 2006 at page 5, lines 1-3.

Second, Weis *et al.* in Scheme IV on page 14 discloses Structure 29 which merely has a chlorine at the 2-position of the ribose ring, not at the 1-position of the L-1-halo-2-deoxyribose of claims 13 and 17.

Third, the chlorine of Structure 29 is introduced at the 2-position by a ring opening reaction of Structure 28 with HCl added ex-situ to DMF whereas the halogen of L-1-halo-2-deoxyribose is introduced at the 1-position by a substitution reaction with an acid halide such as HCl generated in-situ. Therefore, claims 13 and 17 and thus claims 14-16, 18-20 and 69-85, which depends on claim 13 or 17, are not obvious over Gosselin *et al.* in combination with Weis *et al.*

In view of the above comments, Applicants respectfully request withdrawal of the rejection of claims 13-20 and 69-85 under 35 U.S.C. 103(a) as being allegedly unpatentable over Gosselin *et al.* in combination with Weis *et al.*

## CONCLUSION

In light of the above amendments and remarks, the Applicants respectfully request that the PTO reconsider this application with a view towards allowance.

No fee other than the extension fee is believed due for this submission. However, if any fees are required for the entry of this paper or to avoid abandonment of this application, please charge the required fees to Jones Day Deposit Account No. 50-3013 (referencing order no. 417451-999010).

The Examiner is invited to call the undersigned attorney at (650) 739-3983, if a telephone call could help resolve any remaining items.

Respectfully submitted,

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